

EXPRESS MAIL EV 025963518US
Serial No. 10/031,059

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Rec'd PCT/PTO 28 MAY 2002
RCA 89694 #4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Daniel Mark Hutchinson, Gary Dean Grubbs,
Matthew Thomas Mayer and Ricardo Haro
Filed : January 15, 2002
For : METHOD AND APPARATUS FOR PROVIDING DUAL
AUTOMATIC GAIN CONTROL DELAY SETTING IN A
TELEVISION RECEIVER
Serial No. : 10/031,059
Pct No. : PCT/US00/19115
International Filing Date: July 13, 2000
Priority Date : July 16, 1999

RECEIVED
22 JUL 2002
Legal Staff
International Division

PETITION UNDER 37 C.F.R. 1.47(b)
ONE INVENTOR NOT AVAILABLE

Hon. Assistant Commissioner for Patents
Box PCT
Washington, D.C. 20231
Attn.: International Division, Legal Staff

Sir:

Applicants hereby petition the United States Patent and Trademark Office to accept the above-identified national stage application without an executed Declaration from one of the four-named Inventors.

Please charge the required fee of one hundred thirty dollars (\$130.00), pursuant to 37 CFR 1.17(h), for filing a Petition to the Commissioner to Deposit Account 07-0832.

This Petition under 37 C.F.R. 1.47(b), is submitted by the assignee of the above-identified United States Patent Application, THOMSON LICENSING S.A., who owns a proprietary interest in the above-identified United States Patent Application and, after diligent effort, has been unable to obtain the signature of Mr. Ricardo Haro (one of the Applicant's for the above application) on the PCT U.S. Declaration form. The assignee requests that the United States Patent and Trademark Office accept the above-identified national stage application without an executed Declaration from one of the four-named Inventors, Mr. Ricardo Haro. The diligent efforts of the assignee, THOMSON LICENSING S.A., to obtain the signature of Mr. Ricardo Haro (one of the Applicant's for the above application) on the PCT U.S. Declaration form are outlined below.

06/03/2002 MKAYPAGH 00000003 070832 10031059
01 FC:122 130.00 CH

In response to the Notice of Missing Requirements Under 35 U.S.C. 371 dated April 1, 2002, Confirmation No. 6051; in the subject patent application and filed herewith, for which a response is due on June 1, 2002, the following petition and exhibits are submitted in support of Applicants claim that the Inventor is unwilling to sign the Declaration. Attached to the Notice of Missing Parts is a Declaration signed by each of the Inventors of the present application, Daniel Mark Hutchinson, Gary Dean Grubbs and Matthew Thomas Mayer, other than Mr. Ricardo Haro.

Applicant submits that, in view of the fact that this Petition and the response to the Notice of Missing Requirements is sent via Express Mailing, along with the authorization to charge the Deposit Account for the fee for filing of this Petition and the response to the Notice of Missing Requirements, this response is timely.

The last known address for Mr. Ricardo Haro is:

8760 Rhone Terrace #2A
Indianapolis, Indiana 46250

In support of this petition, Applicants have attached a Declaration (Exhibit A) executed by Ms. Davida Fornarotto, Paralegal Administrative Assistant, Thomson multimedia Licensing, Inc. Ms. Fornarotto is entrusted with handling PCT Applications for Thomson multimedia Licensing, Inc. and obtaining signatures from Inventors on all necessary documents.

As required by 37 C.F.R. 1.47(b) and MPEP section 409.03(b)(C) Exhibit A is submitted as proof that diligent effort was made to locate the Inventor and the Inventor could not be found. The efforts of Ms. Fornarotto to locate the inventor are stated in the Declaration and occurred as follows:

Mr. Ricardo Haro is a co-inventor of a number of inventions described in numerous of patent applications owned by THOMSON LICENSING S.A. In a previous application (RCA 89364, U.S. Appln. No. 09/959,083 filed October 16, 2001) numerous unsuccessful attempts to contact Mr. Haro were made in order to obtain his signature on a declaration. The attempts to obtain Mr. Haro's signature on the Declaration for RCA 89364 are as follows:

On September 6, 2001, a letter was sent to the last known address of Mr. Ricardo Haro by Federal Express, to obtain Mr. Haro's signature on several forms needed to the application for RCA 89364 in the United States and foreign countries. The letter and documents were sent to 8760 Rhone Terrace #2A, Indianapolis, Indiana 46250. This is the last known address for Mr. Haro. A copy of the September 6, 2001 letter and Federal Express label is attached Exhibit B.

Several days later, Ms. Davida Fornarotto, paralegal for the assignee, called Federal Express and was informed that the package sent on September 6, 2001 was delivered on September 10, 2001 and was signed for by R. Haro.

Voice mail messages were then placed to Mr. Haro at his home (phone number 317-598-9515) on October 4, 8 and October 23, 2001. On October 15, 2001,

Mr. Kuniyuki Akiyama, agent for the assignee of this case, attempted to contact Mr. Bob Gilliam (supervisor for Mr. Haro when he worked in THOMSON in Indianapolis, Indiana USA). Mr. Gilliam indicated that he tried to contact Mr. Haro (through a friend of Mr. Haro's) and asked him to have Mr. Haro call Mr. Akiyama. No return phone call was received.

On November 7, 2001, Mr. Haro called Ms. Fornarotto. He asked if there was still time to sign the forms and was told that there was. He stated that he would try to get them signed "soon".

With regards to the present case (RCA 89694), attempts to obtain Mr. Haro's signature on a Declaration were also made. These attempts are as follows:

On December 20, 2001, Ms. Fornarotto sent copies of forms requiring Mr. Haro's signature, for the present case (RCA 89694) and also again sent copies of the forms for the application for RCA 89364. A Declaration for filing with the United States Patent Office was included in these forms (one for each of the cases). They were sent via Federal Express to the last known address of Mr. Haro. A copy of the December 20, 2001 letter and Federal Express label are attached as Exhibit C.

On Thursday, January 24, 2002, Mr. Jack Schwartz attempted to contact Mr. Haro at his last known telephone number. Mr. Schwartz left a message explaining the situation and that the assignee was preparing the above-identified patent application for filing in the United States. Mr. Schwartz further explained in the message that, as an inventor, his signature was required on a Declaration. Mr. Haro did not return this telephone call.

No contact and no forms have been received from Mr. Haro as of this date.

In view of the above remarks and Exhibits, the assignee respectfully submit that diligent effort as been made to obtain the signature of Mr. Ricardo Haro on the Declaration form. It is thus, respectfully submitted that this Petition be granted and the national stage of the present application be accepted without the signature of Mr. Haro.

In order to show the Assignee's proprietary interest in the above-identified invention a copy of an Employment agreement signed by Mr. Ricardo Haro on June 5, 1995, i.e., the Employee Innovation and Proprietary Information Agreement, is attached as Exhibit D. A copy of photo identification of Mr. Haro supplied as proof of Identification upon employment is provided as Exhibit E. Mr. Haro was employed by Thomson Consumer Electronics, Inc., predecessor in interest to the present assignee THOMSON LICENSING S.A., between July 15, 1991 and November 10, 2000. On July 15, 1999 a disclosure of the invention described in the present application was signed by Mr. Haro along with all the other inventors and submitted to the present assignee, THOMSON Licensing S.A., for consideration. A copy of the disclosure document is submitted as Exhibit F. A Provisional United States Patent Application Serial No. 60/130,167, based on this invention disclosure and from which the subject application claims priority was filed in the United States Patent and Trademark Office on April 20, 1999. Submission of the disclosure and filing of the

Provisional application were both during the period of employment for Mr. Haro by the assignee. According to paragraph (a) of the Employee Innovation and Proprietary Information Agreement Mr. Haro is required to assign all inventions and technical or business innovations or contributions ... developed by himself solely or jointly with others during the period of his employment. Thus, it is respectfully submitted that the assignee THOMSON LICENSING S.A. has a proprietary interest in the subject United States Patent Application and granting of this petition is necessary in order to preserve the rights of the assignee.

It is thus respectfully submitted that this petition complies fully with the requirements of 37 CFR 1.47(b) by including:

- a) payment of the petition fee under 37 C.F.R. 1.17(i);
- b) a statement of the last known address of Mr. Haro, the only inventor not signing the declaration;
- c) a declaration executed by the other inventors on their own behalf and on behalf of the non-signing inventor; and
- d) evidence of diligent efforts to reach Mr. Haro.

No additional fee is believed due. However, if an additional fee is due, please charge the fee to Deposit Account 07-0832.

Respectfully submitted,

By: 

Kuniyuki Akiyama

Reg. No. 43,314

(609) 734-9404

Patent Operations
Thomson Licensing, Inc.
P.O. Box 5312,
Princeton, NJ 08543-5312
Date: May 28, 2002

EXPRESS MAIL EV 025963518US
Serial No. 10/031,059

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RCA 89694

EXHIBIT A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Daniel Mark Hutchinson, Gary Dean Grubbs,
Matthew Thomas Mayer and Ricardo Haro
Filed : January 15, 2002
For : METHOD AND APPARATUS FOR PROVIDING DUAL
AUTOMATIC GAIN CONTROL DELAY SETTING IN A
TELEVISION RECEIVER
Serial No. : 10/031,059
Pct No. : PCT/US00/19115
International Filing Date: July 13, 2000
Priority Date : July 16, 1999

RULE 1.131 DECLARATION OF DAVIDA FORNAROTTO

I, Davida Fornarotto, declare as follows:

1. I am currently employed by Thomson multimedia Licensing Inc., assignee of the above-captioned United States Patent Application;
2. I am responsible for filing and maintaining a docket for all PCT applications for Thomson multimedia Licensing Inc. These duties include obtaining signatures from inventors on Declarations, Assignments and Powers of Attorney.
3. On September 6, 2001, I sent a letter to the last known address of Mr. Ricardo Haro by Federal Express, to obtain Mr. Haro's signature, on several forms needed to file a previous application (RCA 89364, also owned by THOMSON LICENSING S.A.) in the United States and foreign countries for which Mr. Haro was a co-inventor. The letter and documents were sent to 8760 Rhone Terrace #2A, Indianapolis, Indiana 46250. This is the last known address for Mr. Haro;
4. Several days later, I called Federal Express and was informed that the package sent on September 6, 2001 was delivered on September 10, 2001 and was signed for by R. Haro;

Serial No. 10/031,059

5. I left voice mail messages for Mr. Haro at this home (phone number 317-598-9515) on October 4, 8 and October 23, 2001;

6. On November 7, 2001, I received a telephone call from Mr. Haro. During this telephone conversation Mr. Haro asked if there was still time to sign the forms to which I responded that there was time. He stated that he would try to get them signed "soon";

7. On December 20, 2001, I sent copies of forms requiring Mr. Haro's signature, for the present case (RCA 89694) and also again sent copies of the forms for the application for RCA 89364. A Declaration for filing with the United States Patent Office was included in these forms (one for each of the cases). They were sent via Federal Express to the last known address of Mr. Haro.

8. I have not received a response to this Federal Express package and, as of the date of this petition, I have still not received a response from Mr. Haro;

9. All statements made herein to my knowledge are true. These statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such wilful statements may jeopardize the validity of the Application or any patent issued thereon.

May 28, 2002
Date

David Fornarotto
David Fornarotto

EXPRESS MAIL EV 025963518US
Serial No. 10/031,059

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RCA 89694

EXHIBIT B

THOMSON MULTI
MEDIA

Davida Fornarotto
Paralegal/Administrative
Assistant

THOMSON multimedia
Licensing Inc.

2 Independence Way
P.O. Box 5312
Princeton, NJ 08543-5312
U.S.A.

tel (609) 734-9597
fax (609) 734-9700
Fornarottod@tce.com

September 6, 2001

VIA FEDERAL EXPRESS

Mr. Ricardo Haro
8760 Rhone Terrace #2A
Indianapolis, Indiana 46250

EXHIBIT

Re: RCA 89364
Forms To Be Signed

Dear Mr. Haro:

Enclosed please find several forms for the above case, which require **your signature**, so that we can file this application in foreign countries. **(I have sent separate forms to the other inventors).**

I would greatly appreciate it if you would sign these forms.

Before you sign the forms, please look over the attached copy of the application. This is the application as filed via the PCT. You may keep the copy of the application.

Please sign and date these forms with your **FULL NAME** where indicated, as per the post-it notes attached, **Please make any corrections to your address directly on the forms and place your initials next to the corrections.**

No notarization is required on these forms. However, on the U.S. Provisional Assignment, your signature must be witnessed by two witnesses. **PLEASE NOTE THAT YOU CAN NOT BE A WITNESS ON THIS FORM.**

Please return these forms, **via Federal Express**, before **September 14, 2001**, if possible. A completed return-Federal Express envelope is enclosed for your convenience.

If you have any questions, please do not hesitate to contact me at 609-734-9597. Thank you for your help in this matter.

Very truly yours,

Davida Fornarotto

Ms. Davida Fornarotto
Enc.

*return
8300-6457-9036*

EXPRESS MAIL EV 025963518US
Serial No. 10/031,059

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RCA 89694

EXHIBIT C

THOMSON MULTI MEDIA

Davida Fornarotto
Paralegal/Administrative
Assistant

THOMSON multimedia
Licensing Inc.

2 Independence Way
P.O. Box 5312
Princeton, NJ 08543-5312
U.S.A.

tel (609) 734-9597
fax (609) 734-9700
Fornarottod@tce.com

Date: DEC 20 2001

VIA FEDERAL EXPRESS

Mr. Ricardo Haro
8760 Rhone Terrace #2A
Indianapolis, Indiana 46250

EXHIBIT

Re: RCA 89694
Forms To Be Signed

Dear Mr. Haro:

Enclosed please find a U.S. Provisional Assignment and Agreement form and a U.S. Declaration form for the above case, which require your signature, so that we can file this application in the United States via the PCT. (I have sent separate forms to the other inventors).

Also, in case you might have mislaid them, enclosed is another copy of the forms and the application for RCA 89694 (which were originally sent to you on September 6, 2001. *89364*

I would greatly appreciate it if you would sign all these forms.

Before you sign the forms, please look over the attached copies of the applications. These applications are as filed via the PCT. You may keep the copies of the applications.

Please sign and date these forms with your FULL NAME where indicated, as per the post-it notes attached, Please make any corrections to your address directly on the forms and place your initials next to the corrections.

No notarization is required on these forms. However, on the Provisional Assignment and Agreement form, your signature must be witnessed by two witnesses. **PLEASE NOTE THAT YOU CAN NOT BE A WITNESS ON THESE FORMS.**

Please return these forms, via Federal Express, before January 7, 2002, if possible. A completed return-Federal Express envelope is enclosed for your convenience.

If you have any questions, please do not hesitate to contact me at 609-734-9597. Thank you for your help in this matter.

Very truly yours,

Davida Fornarotto
Ms. Davida Fornarotto

Enc.

*return
827330285048*

FedEx® USA Airbill

Express

1 From Please print and print hard

Date 12/20/01 Sender's FedEx Account Number 2091-6302-0

Sender's Name D. P. Fomaro Phone (609) 734-9889

Company THOMSON MULTIMEDIA LICENSING

Address 2 INDEPENDENCE WAY

City PRINCETON State NJ ZIP 08540

2 Your Internal Billing Reference 802 896944 ZIP 08540

3 To Recipient's Name Mr. Ricardo Haro Phone 1

Company

Address 8760 Rhone Terrace #2A

City Indianapolis State IN ZIP 46250

Peel and Stick FedEx USA Airbill

See back for application instructions.

Questions? Visit our Web site at www.fedex.com

or call 1-800-Go-FedEx® (800)463-3339.

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

0173716483

Sender's Copy

4a Express Package Service

☒ FedEx Priority Overnight ☐ FedEx Standard Overnight ☐ FedEx First Overnight

☐ FedEx 2Day® ☐ FedEx Express Saver®

4b Express Freight Service

☐ FedEx 10day Freight® ☐ FedEx 20day Freight ☐ FedEx 30day Freight

5 Packaging

☒ FedEx Envelope/Letter® ☐ FedEx Pak® ☐ Other Pkg.

6 Special Handling

☐ SATURDAY Delivery ☐ SUNDAY Delivery ☐ HOLD Weekday ☐ HOLD Saturday

☐ RESTRICTIONS ☐ RESTRICTIONS ☐ RESTRICTIONS

☐ No ☐ Yes ☐ Yes ☐ Yes

7 Payment Bill to: ☒ Sender ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

8 Release Signature

Total Packages 1 Total Weight 1.00 Total Declared Value \$.00

402

FedEx Express
Customer Support
Domestic Trace
3976 Airways Boulevard
Module M, 4th Floor
Memphis, TN 38118

U.S. Mail: PO Box 727
Memphis, TN 38194-4843

Telephone 901-469-3600



January 18, 2002

IVRTRACK
(609) 734-9700

Dear IVRTRACK:

Our records reflect the following delivery information for the shipment with the tracking number 927330285037. The package was released as authorized by the shipper/recipient.

Delivery Information:

Released By: M.ZZA83284
Delivered to: 8760 RHONE TERRACE
Delivery Date: December 21, 2001
Delivery Time: 04:23 PM

Shipping Information:

Shipment Reference Information: 902 89694 & 89364

Tracking No: 927330285037

Ship Date: December 20, 2001

Shipper: D P FORNAROTTO
THOMSON MULTIMEDIA
LICENSING
2 INDEPENDENCE WAY
PRINCETON, NJ 085406620

Recipient: MR RICARDO HARO
8760 RHONE TERRANCE 2A
INDIANAPOLIS, IN 46250
US

Thank you for choosing FedEx Express. We look forward to working with you in the future.

FedEx Worldwide Customer Service
1-800-Go-FedEx (1-800-463-3339)
Reference No: R2002011700041806420

This Information is provided subject to the FedEx Service Guide.

EXPRESS MAIL EV 025963518US
Serial No. 10/031,059

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RCA 89694

EXHIBIT D

THOMSON CONSUMER ELECTRONICS, INC.

Employee Innovation and Proprietary Information Agreement

(To be completed in duplicate. Distribution: original copy to Human Resources Operations; second copy to the employee.)

TO THOMSON CONSUMER ELECTRONICS, INC.:

In consideration of my employment by Thomson Consumer Electronics, Inc. ("Thomson") and of the salary or wages paid to me, I agree:

(a) to disclose and assign to Thomson as its exclusive property, all inventions and technical or business innovations or contributions, including computer software, developed or conceived by me solely or jointly with others during the period of my employment, (1) that are along the lines of the businesses, work or investigations of Thomson or its affiliates to which my employment relates or as to which I may receive information due to my employment, or (2) that result from or are suggested by any work which I may do for Thomson, or (3) that are otherwise made through the use of Thomson time, facilities or materials;

(b) to execute all necessary papers and otherwise provide proper assistance (at Thomson's expense), during and subsequent to my employment, to enable Thomson to obtain for itself or its nominees, patents, copyrights, or other legal protection for such inventions or innovations in any and all countries;

(c) to make and maintain for Thomson adequate and current written records of all such inventions or innovations;

(d) upon any termination of my employment to deliver to Thomson promptly all items which belong to Thomson or which by their nature are for the use of Thomson employees only, including, without limitation, all written and other materials which are of a secret* or confidential* nature relating to the business of Thomson or its affiliates;

(e) not to use, publish or otherwise disclose (except as my Thomson duties may require) either during or subsequent to my employment, any secret or confidential information or data of Thomson or any information or data of others which Thomson is obligated to maintain in confidence;

(f) not to disclose or utilize in my work with Thomson any secret or confidential information of others (including any prior employers), or any inventions or innovations of my own which are not included within the scope of this Agreement; and

(g) to abide by the terms and conditions of any agreements or licenses to which Thomson is a party, to the extent that I am made aware (or should be aware by virtue of my duties) of the existence of such agreements or licenses.

This Agreement, effective as of the date of my employment by Thomson, supersedes and replaces any existing agreement between Thomson and myself relating generally to the same subject matter. It may not be modified or terminated, in whole or part, except in writing signed by an authorized representative of Thomson. Discharge of my undertakings in this Agreement shall be an obligation of my executors, administrators, or other legal representatives or assigns. Thomson, wherever used in this Agreement, includes Thomson Consumer Electronics, Inc., its parent corporation, Thomson Consumer Electronics, and the divisions, affiliates, and subsidiaries of either.

I am attaching a copy or disclosure of (a) any agreements to which I am a party, which may be in conflict with the obligations undertaken above; and (b) any computer software or unpatented inventions which I made or conceived prior to the date of this Agreement, in which I now own an interest and which I wish to exclude from this Agreement.

I represent that, except as otherwise stated, I have no agreements with or obligations to others in conflict with the foregoing.

* These terms are used in the ordinary sense and do not refer to official security classifications of any government department or agency. Without limitation, examples of materials, information and data which may be of a secret or confidential nature are: drawings, manuals, notebooks, reports, models, inventions, formulas, processes, machines, compositions, computer software, accounting methods, business plans and information systems including such materials, information and data which are in machine readable form.

Full Name Ricardo Hara Ojeda Department HO
(Printed or Typed - Full Name - no initials)
 Social Security No. _____ Location HO
 Signature [Signature] Date 06/05/95
(Employee Signature - Full Name - no initials) (Date of Signature)
 Witness [Signature] Title Coord HR Programs
(The employee's immediate supervisor or other Thomson Representative) (Position or Title of Witness)

NUMI DTE:06/06/95 SSN:317-15-1216 XC: UNIT:083 PG:001

ACCOUNT SSN:317-15-1216 ETC:0 RFN:95156030638 DOC:455 IDN:A

NAME NAA: RICARDO , , HARO.

BIRTH DOB:09/01/1969 PLB: GUADALGARA , MX FCI:* SEX:M ETB:5 CSP:F

PARENT MNA: MANA G OJEDA

FNA: JOSE D HARO

INTERNAL CYD:06/05/95

YOUR SOCIAL SECURITY CARD IS THE OFFICIAL
VERIFICATION OF YOUR SOCIAL SECURITY NUMBER
AND EVIDENCE OF EMPLOYMENT AUTHORIZATION.

THIS PRINTOUT DOES NOT ESTABLISH YOUR RIGHT
TO WORK IN THE UNITED STATES.

EXPRESS MAIL EV 025963518US
Serial No. 10/031,059

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RCA 89694

EXHIBIT E

EN CASO DE QUE EL TITULAR DE ESTE PASAPORTE REQUIERA DE ASISTENCIA O PROTECCION DEL GOBIERNO MEXICANO, SE RECOMIENDA ACUDIR A LA REPRESENTACION DIPLOMATICA O CONSULAR MAS CERCANA, PARA SU PROTECCION ESCRIBA NOMBRE Y DIRECCION DE UNA PERSONA A QUIEN SE PUEDA AVISAR EN CASO DE EMERGENCIA.

Nombre: José de Jesús Hara Gallegos
Dirección: Ped. Virca #1103 Col Chapultepec
Entidad Federativa: Durango Dgo Teléfono: 2-82-31

DOMICILIO DEL TITULAR / HOLDER'S ADDRESS / ADRESSE DU TITULAIRE

Dirección: Zofirac 755-3 Col. La Joya
Entidad Federativa: Col. de la Cruz Chib. Teléfono: _____

Firma del titular / Holder's signature / Signature du titulaire

PASAPORTE
PASSEPORT
PASAPORTO

ESTADOS UNIDOS MEXICANOS

TRANSFORM
COURTESY

Comité de los Estados de la Organización
Económica y Social de las Naciones Unidas

090011272

HABO

CEEDA

RICARDO

MEXICANA

DI SEP 1 SEP 69

GUADALAJARA JAL

021 AUG 1 AUG 93

02 AUG 1961

CRIMINAL RECORDS

P<MEXHARO<<OJEDA<RICARDO<<<<<<<<<<<<<<<<<<
0900112728MEX6909Q13M9808025<<<<<<<<<<<<<<<<8

[illegible]

U.S. IMMIGRATION
150 ELP 537
JUN 8 1995
ADMITTED
7-7
9661 20 JUN 1995

Departure Number
51991512

14. Family Name	HAR. ODEDA
13. First (Given) Name	RICARDO
16. Birth Date (Day/Mo/Yr)	01/09/69
17. Country of Citizenship	MEXICO

V I S A S

14

UNITED STATES OF AMERICA **VISA**

Issuing Post Name: CIUDAD JUAREZ Control Number: 1995158792001

Surname: HARG OJEDA Visa Type/Class: RB BBBC

Given Name: RICARDO Birth Date: 01SEP1960 Nationality: MEX

Passport Number: 090011272 Issue Date: 30MAY1995 Expiry Date: 29MAY2005

Gender: M

Annulment:

85267989

See Other Side

STAPLE HERE

EXPRESS MAIL EV 025963518US
Serial No. 10/031,059

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RCA 89694

EXHIBIT F

THOMSON CONSUMER ELECTRONICS, INC.

89694

TO: Jeffrey D. Carter
 Patent Operations
 P.O. BOX 1976, MS INH300 North
 Indianapolis, IN 46206-1976 USA

Docket No. _____

FAX: (317) 587-6781
 PHONE: (317) 587-5412

99178

1. **DESCRIPTIVE INVENTION TITLE:** Dual Settings for Tuner RFAGC Delay Point for TV Receiver or Set Top Box Capable of Receiving both NTSC and DTV Television Signals

2. **INVENTOR(S):**

FULL NAME Gary Dean Grubbs **SOCIAL SECURITY #** 316-66-3409 **DEPARTMENT #** 619
FIRST **MIDDLE** **LAST**

RESIDENCE 8554 Douglaston Court Indianapolis Marion Indiana 46234
STREET **CITY** **COUNTY** **STATE** **ZIP**

COUNTRY OF CITIZENSHIP USA
DEPARTMENT NAME RF Development **TELEPHONE #** 317-587-4025

☒ **EMPLOYEE OF TCE** ☐ **TCE SUB (SPECIFY)** **MAIL STATION** INH600 **FAX #** 317-587-6775
COMPANY TCE
SUPERVISOR Ward Hall

FULL NAME Matthew Thomas Mayer **SOCIAL SECURITY #** 160-66-6634 **DEPARTMENT #** 523
FIRST **MIDDLE** **LAST**

RESIDENCE 9340A Kungsholm Drive Indianapolis Marion IN 46250
STREET **CITY** **COUNTY** **STATE** **ZIP**

COUNTRY OF CITIZENSHIP USA
DEPARTMENT NAME MM&S Communication Systems **TELEPHONE #** 317-587-4200

☒ **EMPLOYEE OF TCE** ☐ **TCE SUB (SPECIFY)** **MAIL STATION** INH700 **FAX #** 317-587-6779
COMPANY TCE
SUPERVISOR John Stewart

[IF MORE THAN TWO INVENTORS PLEASE ADD ADDITIONAL SHEET GIVING ABOVE INFORMATION]

3. **INVENTION DISCLOSED OR DESCRIBED IN ENGINEERING NOTEBOOKS NO.** See attached **PAGES** (page 6)

4. **CHRONOLOGY:**

Date Invention Conceived	5/18	1998	See Attached	Recorded Notebook No.	Page
Date First Sketch or Drawing Made		19	Not Yet Started		
Date Construction or Model Started		19	Not Yet Started		
Date Construction or Model Completed		19	Not Yet Complete		
Date Testing Started		19	Not Yet Started		
Date Successful Testing Completed		19	Not Yet Complete		

5. **HAS THERE BEEN ANY EXPERIMENTAL USE OF THE INVENTION?** ☒ YES ☐ NO
 (i.e., use for the purpose of testing or perfecting the invention)
HAS THERE BEEN ANY SALE OR PRODUCTION USE OF THE INVENTION? ☐ YES ☒ NO
IS SALE OR PRODUCTION USE SCHEDULED? ☒ YES ☐ NO
HAS THE INVENTION BEEN EMBODIED IN A PRODUCT FOR DELIVERY TO THE GOVERNMENT, DESCRIBED IN A PROPOSAL TO THE GOVERNMENT, OR DEVELOPED PURSUANT TO A GOVERNMENT CONTRACT? ☐ YES ☒ NO
IF ANY ANSWERS IN 5 ARE "YES", EXPLAIN GIVING DATES AND CIRCUMSTANCES. Engineering testing has occurred. Production in late 1999

Inventor Ray Dean Inventor Matthew Mayer Witness Michael Rugh Witness Mark T. Kowalsky

The contents of this invention disclosure are for confidential use only and are not to be disclosed in any manner in whole or in part without the permission of Thomson Consumer Electronics, Inc.
 TCE PAT. 9/96 (REV4A2) ORIGINAL FOR PATENT OPERATIONS WITH ORIGINAL OF ATTACHMENTS

Inventor Ray Dean Inventor Daniel Mark Hutchinson

THOMSON CONSUMER ELECTRONICS, INC.

TO: Jeffrey D. Carter
 Patent Operations
 P.O. BOX 1976, MS INH300 North
 Indianapolis, IN 46206-1976 USA

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Docket No. _____

1. DESCRIPTIVE INVENTION TITLE: _____

2. INVENTOR(S):

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 COMPANY TCE
 SUPERVISOR Ward Hall

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(IF MORE THAN TWO INVENTORS PLEASE ADD ADDITIONAL SHEET GIVING ABOVE INFORMATION)

3. INVENTION DISCLOSED OR DESCRIBED IN ENGINEERING NOTEBOOKS NO. _____

PAGES _____

4. CHRONOLOGY:

Date Invention Conceived	<u>19</u>				
Date First Sketch or Drawing Made	<u>19</u>	Not Yet Started	<input type="checkbox"/>	Recorded Notebook No.	Page
Date Construction or Model Started	<u>19</u>	Not Yet Started	<input type="checkbox"/>	Recorded Notebook No.	Page
Date Construction or Model Completed	<u>19</u>	Not Yet Complete	<input type="checkbox"/>	Recorded Notebook No.	Page
Date Testing Started	<u>19</u>	Not Yet Started	<input type="checkbox"/>	Recorded Notebook No.	Page
Date Successful Testing Completed	<u>19</u>	Not Yet Complete	<input type="checkbox"/>	Recorded Notebook No.	Page

5. HAS THERE BEEN ANY EXPERIMENTAL USE OF THE INVENTION?

(i.e., use for the purpose of testing or perfecting the invention)

☐ YES ☐ NO

HAS THERE BEEN ANY SALE OR PRODUCTION USE OF THE INVENTION?

☐ YES ☐ NO

IS SALE OR PRODUCTION USE SCHEDULED?

☐ YES ☐ NO

HAS THE INVENTION BEEN EMBODIED IN A PRODUCT FOR DELIVERY TO THE GOVERNMENT, DESCRIBED IN A PROPOSAL TO THE GOVERNMENT, OR DEVELOPED PURSUANT TO A GOVERNMENT CONTRACT?

☐ YES ☐ NO

IF ANY ANSWERS IN 5 ARE "YES", EXPLAIN GIVING DATES AND CIRCUMSTANCES.

Inventor [Signature]Inventor [Signature]Witness [Signature]Witness [Signature]

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 TCE PAT.9/96 (REV4A2) ORIGINAL FOR PATENT OPERATIONS WITH ORIGINAL OF ATTACHMENTS

Inventor [Signature]Inventor [Signature]

6. WHERE IS THE INVENTION USED? In DTV300 PTV DTV Receiver and DTC100 Digital Set-top box
7. (a) HAS THERE BEEN ANY DISCLOSURE OF THE SUBJECT MATTER OF THIS INVENTION OUTSIDE OF TCE, OR IS DISCLOSURE ANTICIPATED? ☐ YES ☒ NO
- (b) HAS THE SUBJECT MATTER OF THIS INVENTION BEEN INCLUDED IN ANY PUBLICATION, FOR EXAMPLE, CATALOG, ADVERTISING MATERIAL, DATA BOOK, APPLICATION NOTES, CONFERENCE PAPER, MAGAZINE ARTICLE, GOVERNMENT OR CUSTOMER PROPOSAL OR IS ANY DISCLOSURE ANTICIPATED? ☐ YES ☒ NO

IF "YES", EXPLAIN GIVING DATES AND DETAILS

8. DESCRIBE AND INDICATE THE DATA OF ANY EARLIER DOCUMENTATION, e.g. COMPUTER SIMULATION DATA, ETC.
None

9. THE CLOSEST KNOWN PRIOR ART IS AS FOLLOWS:
None known

10. BRIEF ABSTRACT OF THE ATTACHED INVENTION DISCLOSURE

This invention deals with a TV receiver apparatus that can receive both NTSC and DTV signals. Different tuner Automatic Gain Control (AGC) Delay points Have been implemented for DTV reception vs. NTSC reception in order to improve the strong signal handling capability (cross-modulation) when receiving DTV signals. This is made possible by the significantly different SNR requirements for "noise free" demodulation of a DTV signal versus an NTSC signal.

11. PREPARE AND ATTACH TO THIS COVER SHEET A COMPLETE WRITTEN DISCLOSURE OF YOUR INVENTION INCLUDING ANY SKETCHES, DIAGRAMS, DRAWINGS, PRINTS, ETC. WHICH WILL AID IN UNDERSTANDING THIS INVENTION. THE OUTLINE BELOW SHOULD BE FOLLOWED IN WRITING THE DISCLOSURE:
- (a) BRIEF DISCUSSION OF PROBLEM SOLVED BY INVENTION.
- (b) PRESENTATION AND DISCUSSION OF KNOWN PRIOR ART, INCLUDING MANNER IN WHICH OTHERS HAVE ATTEMPTED TO SOLVE THE PROBLEM. POINT OUT DISADVANTAGES AND WEAKNESSES IN PRIOR ART. INCLUDE LITERATURE REFERENCES WHERE AVAILABLE.
- (c) DESCRIPTION OF INVENTION INCLUDING SPECIFIC EMBODIMENT. POINT OUT IMPORTANT FEATURES AND POINTS BELIEVED TO BE NOVEL. STATE ADVANTAGES OF INVENTION AND SACRIFICES, IF ANY, MADE TO ACHIEVE THESE ADVANTAGES. DESCRIBE ANY EXPERIMENTS CONDUCTED AND RESULTS OF THOSE EXPERIMENTS.
- (d) IS THE CONCEPT OF THE INVENTION APPLICABLE TO OTHER PROBLEMS AND FIELDS OF INTEREST? IF SO, WHAT ARE THEY, AND HOW WOULD THE PRINCIPLES OF THE INVENTION BE USED?
- (e) THE INVENTOR(S) AND WITNESSES SHOULD SIGN AND DATE EACH PAGE OF THE ATTACHED DISCLOSURE.
12. PLEASE ATTACH ONE EXTRA COPY OF THE COMPLETE WRITTEN DISCLOSURE.

THE INVENTION DESCRIBED BY THE ATTACHED PATENT DISCLOSURE WHICH COMPRISES _____ PAGES IS SUBMITTED PURSUANT TO MY EMPLOYMENT AGREEMENT WITH THOMSON CONSUMER ELECTRONICS.

SIGN FULL NAME(S)

(1) Ben Dan Klu 7/15/99 (3) [Signature] 7/15/99 DATE: _____

(2) [Signature] 7-15-99 (4) Daniel Mark Hutchins 7-15-99 DATE: _____

(X) THIS INVENTION WAS FIRST EXPLAINED TO ME BY THE INVENTOR(S) ON JULY 15 1999 | THIS INVENTION WAS FIRST EXPLAINED TO ME BY THE INVENTOR(S) ON _____ 19

(X) THE ATTACHED DISCLOSURE WAS READ AND UNDERSTOOD BY ME ON JULY 15 1999 | THE ATTACHED DISCLOSURE WAS READ AND UNDERSTOOD BY ME ON _____ 19

Inventor [Signature] Inventor [Signature] Witness [Signature] Witness [Signature]

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With the transition to HDTV upon us, TV receivers will be required to receive both NTSC and DTV (HDTV) signals. During this HDTV transition period the terrestrial TV spectrum will potentially be much more dense as each current TV broadcaster will be assigned a second broadcast channel to transmit an HDTV signal in addition to its current NTSC transmission. Current "taboos", especially for UHF, are expected to be relaxed and/or eliminated. This scenario will require the TV tuner to be more robust in its linearity performance.

Many TV receivers being designed today will use a single RF tuner to downconvert both NTSC and DTV signals for downstream processing. A simple typical block diagram of the RF front end is shown in Fig. 1. The RFAGC voltage to the tuner RF Amp can come from either the NTSC IF circuitry or the DTV IF circuitry depending on which type of signal is being received. This presents the opportunity to have two different RFAGC setups, one for NTSC reception and one for DTV reception.

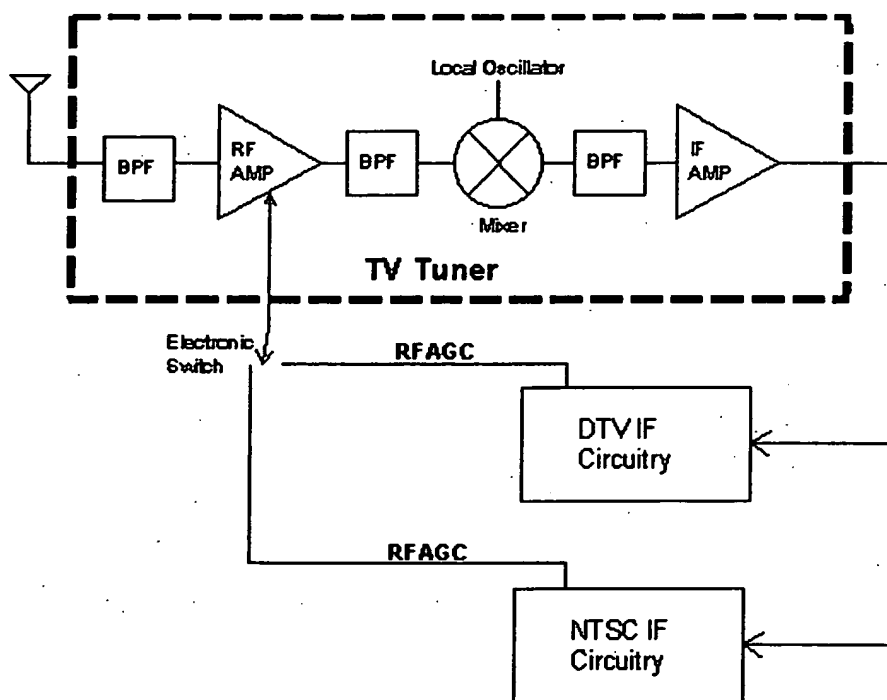


Fig. 1

At low input signal levels into the tuner (for the channel that the tuner is tuned to) the tuner will be at maximum gain to maximize signal-to-noise ratio. As the signal level into the tuner increases there comes a point where the tuner will need to be gain reduced, via RFAGC, so subsequent stages after the tuner RF Amp are not overloaded with too much signal. From this input level and higher the tuner will be in gain reduction and will supply a constant tuner IF output level to the IF circuitry. The tuner input level at which gain reduction begins is referred to as the "RFAGC Delay Point".

For NTSC and HDTV signals there are significant differences in SNR required to demodulate and present "noise free" video. For NTSC the signal from the front end needs to have an SNR greater than 50dB to present a noise-free picture. For HDTV (8VSB), the SNR from the receiver front end only needs to be greater than approximately 17dB to present a noise free picture. This means that we can start gain reducing at a much lower input signal level for DTV reception than for NTSC.

Inventor [Signature]

Inventor [Signature]

Witness [Signature]

Witness [Signature]

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Inventor [Signature]

Inventor [Signature]

Daniel Mark Hutchinson

reception. Please note that tuner cross-modulation and inter-modulation performance increases as the tuner is gain reduced. This is shown in Table 1. Table 1 is data taken on a 1st generation NTSC/DTV tuner on channel 13. The data represents the level of undesired signal (either 1st or 1nd adjacent channel) that is required to produce the specified level of cross-modulation.

Table 1 (Units = dBm)

Tuner	Undesired Signal Level to Produce Specified Cross-Mod			
	+6MHz	-6MHz	+6MHz	-6MHz
Gain Reduction	1% Xmod	1% Xmod	10% Xmod	10% Xmod
0dB	-32	-34	-21	-23
3dB	-29	-31	-19	-21
6dB	-25	-28	-16	-18
9dB	-21	-23	-12	-15
12dB	-15	-16	-9	-11
15dB	-9	-16	-5	-7

As is shown in Table 1, the tuner cross-modulation performance increases by the amount of gain reduction or somewhat more. Couple this phenomenon with the much lower SNR requirements for HDTV de-modulation vs. NTSC and we have a situation where we can set the RFAGC delay point much earlier for HDTV reception than for NTSC reception. This will increase the HDTV linearity performance (cross-mod and intermod) when the desired signal level is high enough that the tuner is in gain reduction. With the earlier HDTV RFAGC delay point the tuner will be in gain reduction at a lower desired input signal level. At low desired signal levels, the tuner will be at maximum gain and no linearity improvement will be achieved.

As an extension of this another slightly more complex algorithm is possible for HDTV reception. The tuner's gain can be dynamically reduced based on the estimated input RF amplitude to further improve tuner linearity and ultimately reception of terrestrial digital broadcast signals in the presence of adjacent channel interference. Setting the tuner output level statically to optimize noise performance leads to non-optimal performance in the presence of high amplitude interfering adjacent channel signals. As shown in the table above, large amplitude adjacent channel signals will cause less distortion if the gain of the tuner is reduced. The gain of the tuner can be set dynamically based on an amplitude estimate of the desired and interfering input signal levels to choose the best compromise between noise and linearity performance. The input amplitude estimate is obtained by measuring the RF AGC voltage given an aligned AGC delay setting in conjunction with a predetermined tuner gain curve.

Inventor

Inventor

Witness

Witness

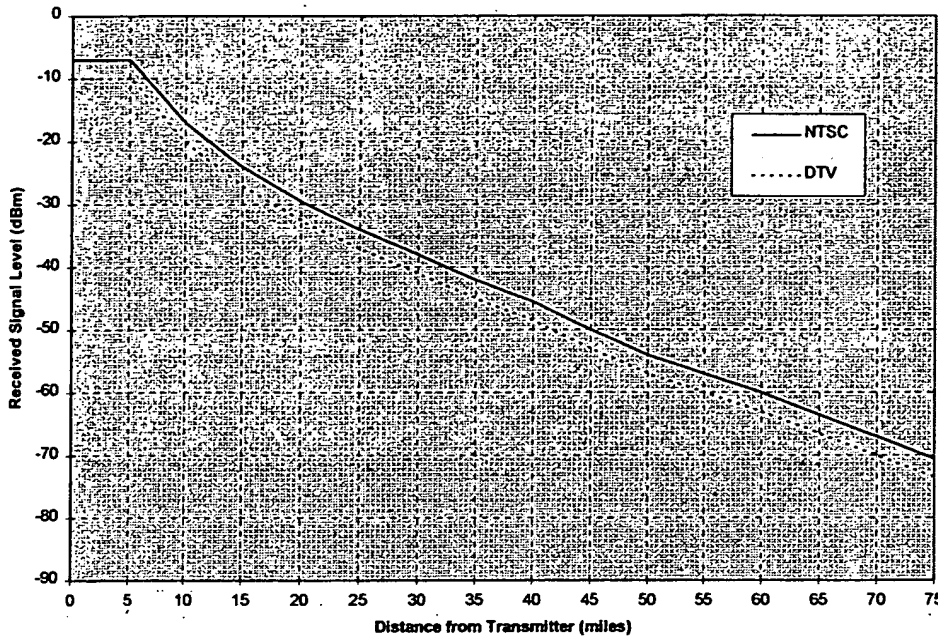
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Tweezer

Inventor

Daniel Mark Hutchinson

Fig. 2 VHF Received Signal Level vs. Distance from Transmitter
 (assuming maximum ERP)



on G. Grubbs
 office computer.

* This is earliest
 documentation of
 the idea.

4. Channel Allotment Spacing Requirements

Referring to the FCC 6th R&O (5), pages E-36 and E-37, the following worst case spacing requirements are assumed.

Table 1

Condition	No allotments allowed between
UHF 1 st Adjacent Channel DTV into DTV	20 - 55 miles
UHF 1 st Adjacent Channel NTSC into DTV	6 - 55 miles
UHF 2 nd Adjacent Channel DTV into DTV	No restrictions
UHF 2 nd Adjacent Channel NTSC into DTV	15 - 55 miles
UHF Image Channel DTV into DTV	No restrictions
UHF Image Channel NTSC into DTV	No restrictions
VHF 1 st Adjacent Channel NTSC into DTV	11 - 71 miles
VHF 1 st Adjacent Channel DTV into DTV	30 - 65 miles
VHF 2 nd Adjacent Channel DTV into DTV	No restrictions
VHF 2 nd Adjacent Channel NTSC into DTV	No restrictions
VHF Image Channel DTV into DTV	No restrictions
VHF Image Channel NTSC into DTV	No restrictions

5. RF AGC Delay Point

When receiving DTV signals, the tuner automatic gain reduction will begin when the tuner receives a desired RF signal input level of greater than -59dBm. This RF AGC "delay" point implies that the tuner will begin gain reducing approximately 10dB earlier than typically done for NTSC processing and is possible due to the fact that the VSB processing path requires a much lower SNR to produce a "noise free" picture. It is assumed, and has been verified empirically, that the Raptor tuner cross-modulation performance improves at least 1dB for every 1dB of tuner gain reduction

Inventor G. Grubbs Inventor Daniel Mark Hutchinson Witness Michael R. Ryzel Witness Mark T. Parvathy

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